UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/540,136	06/21/2005	Hiroyuki Tomita	124408	3574

25944 7590 03/19/2008

OLIFF & BERRIDGE, PLC
P.O. BOX 320850
ALEXANDRIA, VA 22320-4850

EXAMINER	
STRIEB, MICHAEL A	

ART UNIT	PAPER NUMBER
2862	

MAIL DATE	DELIVERY MODE
03/19/2008	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/540,136	TOMITA ET AL.	
	Examiner	Art Unit	
	MICHAEL A. STRIEB	2862	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *31 January 2008*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *63-76 and 78-88* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *63-76 and 78-88* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *21 June 2005* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Specification

1. The lengthy specification has not been checked to the extent necessary to determine the presence of all possible minor errors. Applicant's cooperation is requested in correcting any errors of which applicant may become aware in the specification.

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

3. Claims 63-65, 67-69, and 78-85 are rejected under 35 U.S.C. 103(a) as being unpatentable over Misawa et al (5,282,044) in view of Parulski et al (US 5,440,343).

Regarding **claim 63**, Misawa et al disclose a blur correction camera system comprising a vibration detection unit that detects a vibration and outputs a vibration detection signal (column 1, lines 53-57), a blur correction optical system that is driven based upon the vibration detection signal and corrects an image blur (column 4, lines 1-5), an image-capturing unit (column 6, line 46) that captures an image formed with a photographic optical system that includes the blur correction optical system (column 6, lines 53-56), and an image restoration computing unit that corrects an image blur by executing image restoration through image processing on an image captured by the image-capturing unit (column 6, lines 64-68; column 7, lines 1-55).

Misawa et al does not disclose wherein the image captured by the image-capturing unit is a still image. Rather, Misawa et al disclose a motion picture camera.

However, at the time of the invention, a person having ordinary skill in the art would have known to configure a motion picture camera to capture still images, as taught in Parulski et al (column 2, lines 3-4). It would have been obvious to combine Parulski et al with Misawa et al in order to provide greater variety in usage of the camera device.

Therefore, it would have been obvious to combine Parulski et al with Misawa et al to obtain the invention as disclosed in claim 63.

Regarding **claim 64**, Misawa et al in combination with Parulski et al disclose all of the limitations as applied to claim 63.

Further, Misawa et al disclose a point spread function computing unit that computes a point spread function (column 6, lines 64-68; column 7, lines 1-8), wherein the image restoration computing unit executes the image restoration by processing the image using the point spread function (column 7, lines 9-55).

Regarding **claim 65**, Misawa et al in combination with Parulski et al disclose all of the limitations as applied to claim 64 above.

Further, Misawa et al disclose a reference value computing unit that computes a reference value for the vibration detection signal (column 5, lines 9-16), wherein the point spread function computing unit computes the point spread function based upon calculation results of the reference value computing unit (column 5, lines 17-24).

Regarding **claim 67**, Misawa et al disclose a vibration detection unit that detects a vibration and outputs a vibration detection signal (column 3, lines 53-57), a reference value computing unit that computes a reference value for the vibration detection signal (column 5, lines 9-16), a blur correction optical system that is driven based upon the reference value and the vibration detection signal and corrects an image blur (column 4, lines 1-5; column 7, lines 9-16), an image-capturing unit (column 6, line 46) that captures an image formed by a photographic optical system that includes the blur correction optical system (column 6, lines 53-56), a point spread function computing unit that computes a point spread function needed in an image restoration computation based upon the reference value (column 5, lines 17-24), and an information volume reducing unit that reduces a volume of information related to at least on of the reference value used in the computation of the point spread function and the computed point spread function (column 1, lines 56-62).

Misawa et al do not disclose wherein the image blur is a still image blur. Rather, Misawa et al disclose a motion picture camera.

However, at the time of the invention, a person having ordinary skill in the art would have known to configure a motion picture camera to capture still images, as taught in Parulski et al (column 2, lines 3-4). It would have been obvious to combine Parulski et al with Misawa et al in order to provide greater variety in usage of the camera device.

Therefore, it would have been obvious to combine Parulski et al with Misawa et al to obtain the invention as disclosed in claim 67.

Regarding **claim 68**, Misawa et al in combination with Parulski et al disclose all of the limitations as applied to claim 67 above.

Further, Misawa et al disclose that the information reducing unit reduces the information volume by culling data related to at least one of the reference value and the computed point spread function (column 1, lines 56-62).

Regarding **claim 69**, Misawa et al disclose all of the limitations as applied to claim 67 above.

Further, Misawa et al disclose that the information volume reducing unit reduces the information volume by ensuring that there will still be a large enough volume of information required for the image restoration computation (column 1, lines 63-67).

Regarding **claim 78**, Misawa et al disclose a vibration detection unit that detects a vibration and outputs a vibration detection signal (column 3, lines 53-57), an optical blur correction device that corrects an image blur by driving a blur correction optical system based upon the vibration detection signal (column 4, lines 1-5), a point spread function computing unit that computes a point spread function needed in image restoration in which the image blur is corrected through image processing (column 5, lines 17-24), and an image restoration decision-making unit that makes a decision as to whether to enter an image restoration mode in which blur correction is executed through the image restoration or a preparatory operation for blur correction to be achieved through the image restoration is executed (column 4, lines 54-62; column 5, lines 31-38; column 12, lines 66-68; column 13, lines 1-7; Figure 9).

Misawa et al do not disclose wherein the image blur is a still image blur. Rather, Misawa et al disclose a motion picture camera.

However, at the time of the invention, a person having ordinary skill in the art would have known to configure a motion picture camera to capture still images, as taught in Parulski et al (column 2, lines 3-4). It would have been obvious to combine Parulski et al with Misawa et al in order to provide greater variety in usage of the camera device.

Therefore, it would have been obvious to combine Parulski et al with Misawa et al to obtain the invention as disclosed in claim 78.

Regarding **claim 79**, Misawa et al in combination with Parulski et al disclose all of the limitations as applied to claim 78 above.

Further, Misawa et al disclose that the image restoration decision-making unit makes a decision as to whether to enter the image restoration mode based upon the vibration detection signal (column 4, lines 54-62; column 5, lines 31-38; column 12, lines 66-68; column 13, lines 1-7; Figure 9).

Regarding **claim 80**, Misawa in combination with Parulski et al disclose all of the limitations as applied to claim 78 above.

Misawa et al in combination with Parulski et al do not disclose that the image restoration decision-making unit makes a decision as to whether to enter the image restoration mode based upon a shutter speed.

At the time of the invention, the claim would have been obvious because a person of ordinary skill has good reason to pursue the known options within his

or her technical grasp. If this leads to the anticipated success, it is likely the product not of innovation but of ordinary skill and common sense. As there are a finite number of factors upon which the decision-making unit can make a decision, and as shutter speed is one of those factors, it is reasonable that a person of ordinary skill would use it as a basis on which to make the decision.

Regarding **claim 81**, Misawa et al in combination with Parulski et al disclose the invention as applied to claim 78 above.

Misawa et al in combination with Parulski et al do not disclose that the image restoration decision-making unit makes a decision as to whether to enter the image restoration mode based upon a shutter speed.

At the time of the invention, the claim would have been obvious because a person of ordinary skill has good reason to pursue the known options within his or her technical grasp. If this leads to the anticipated success, it is likely the product not of innovation but of ordinary skill and common sense. As there are a finite number of factors upon which the decision-making unit can make a decision, and as focal length of a photographic optical system is one of those factors, it is reasonable that a person of ordinary skill would use it as a basis on which to make the decision.

Regarding **claim 82**, Misawa et al in combination with Parulski et al disclose the invention as applied to claim 78 above.

Misawa et al in combination with Parulski et al do not disclose that the image restoration decision-making unit makes a decision as to whether to enter the image restoration mode based upon a shutter speed.

At the time of the invention, the claim would have been obvious because a person of ordinary skill has good reason to pursue the known options within his or her technical grasp. If this leads to the anticipated success, it is likely the product not of innovation but of ordinary skill and common sense. As there are a finite number of factors upon which the decision-making unit can make a decision, and as the point spread function is one of those factors, it is reasonable that a person of ordinary skill would use it as a basis on which to make the decision.

Regarding **claim 83**, Misawa et al in combination with Parulski et al disclose all of the limitations as applied to claim 78 above.

Further, Misawa et al disclose a reporting device that reports a decision made by the image restoration decision-making unit that the image restoration mode should not be entered (column 13, lines 3-7; column 13, lines 23-46; Fig. 9).

Regarding **claim 84**, Misawa et al in combination with Parulski et al disclose all of the limitations as applied to claim 78 above.

Further, Misawa et al disclose that if the image restoration decision-making unit determines that the image restoration mode should not be entered, the image restoration mode is not entered (column 13, lines 3-7; column 13, lines 23-46; Fig. 9).

Regarding **claim 85**, Misawa et al in combination with Parulski et al disclose all of the limitations as applied to claim 78 above.

Further, Misawa et al disclose in Figure 9 that if the image restoration mode should not be entered, the device enters normal control (step 114). Under normal operation conditions, the point spread function is not saved. Therefore, Misawa et al

teach that if the image restoration decision-making unit determines that the image restoration mode should not be entered, the point spread function is not saved.

Regarding **claim 86**, Misawa et al disclose a blur correction camera system comprising a vibration detection unit that detects a vibration and outputs a vibration detection signal (column 1, lines 53-57), a blur correction optical system that is driven based upon the vibration detection signal and corrects an image blur (column 4, lines 1-5), an image-capturing unit (column 6, line 46) that captures an image formed with a photographic optical system that includes the blur correction optical system (column 6, lines 53-56), an image restoration computing unit that corrects an image blur by executing image restoration through image processing on an image captured by the image-capturing unit (column 6, lines 64-68; column 7, lines 1-55), and a point spread function computing unit that computes a point spread function (column 6, lines 64-68; column 7, lines 1-8), wherein the image restoration computing unit executes the image restoration by processing the image using the point spread function (column 7, lines 9-55).

Misawa et al does not disclose wherein the image captured by the image-capturing unit is a still image or that the point spread function is computed based on a still image. Rather, Misawa et al disclose a motion picture camera.

However, at the time of the invention, a person having ordinary skill in the art would have known to configure a motion picture camera to capture still images, as taught in Parulski et al (column 2, lines 3-4). It would have been obvious to combine

Parulski et al with Misawa et al in order to provide greater variety in usage of the camera device.

Therefore, it would have been obvious to combine Parulski et al with Misawa et al to obtain the invention as disclosed in claim 86.

Regarding **claim 87**, Misawa et al in combination with Parulski et al disclose all of the limitations as applied to claim 86 above.

Further, Misawa et al disclose wherein the image restoration computing unit corrects an image blur by executing image restoration through processing on the image captured by the image-capturing unit (column 7, lines 9-55).

Regarding **claim 88**, Misawa et al in combination with Parulski et al disclose all of the limitations as applied to claim 86 above.

Further, Misawa et al disclose a reference value computing unit that computes a reference value for the vibration detection signal (column 5, lines 9-16), wherein the point spread function computing unit computes the point spread function based upon calculation results of the reference value computing unit (column 5, lines 17-24).

4. Claims 66, 70-73, and 75-76 are rejected under 35 U.S.C. 103(a) as being unpatentable over Misawa et al in view of Parulski et al and in further view of Min (2001/0010705 A1).

Regarding **claim 66**, Misawa et al in combination with Parulski et al disclose all of the limitations as applied to claim 65 above.

Misawa et al in combination with Parulski et al do not disclose an external device comprising the image restoration computing unit that is a device independent of the

camera and executes the image restoration by using the image recorded by the image recording unit and the point spread function input thereto.

Min discloses an external device comprising the image restoration computing unit that is a device independent of the camera and executes the image restoration by using the image recorded by the image recording unit and the point spread function input thereto (paragraph 35).

At the time of the invention, it would have been obvious to a person having ordinary skill in the art to combine the external device comprising the image restoration computing unit disclosed by Min with Misawa et al and Parulski et al. The motivation for doing so would have been to minimize the number or components in the camera itself, making it more compact and easier to both manufacture and package.

Therefore, it would have been obvious to combine Min with Misawa et al and Parulski et al to obtain the invention as disclosed in claim 66.

Regarding **claim 70**, Misawa et al disclose a blur correction camera system comprising a vibration detection unit that detects and outputs a vibration detection signal (column 3, lines 53-57)., an image-capturing unit that captures an image formed by a photographic optical system that includes a blur correction optical system as a raw image (column 6, lines 43-49), a raw image saving unit that saves the raw image (column 6, lines 53-56), and an image restoration computing unit that allows parameters related to image processing to be varied, executes image restoration through image processing on the raw image by using the parameter and creates a restored image obtained by correcting an image blur (column 6, lines 64-68; column 7, lines 1-55).

Misawa et al do not disclose wherein the image blur is a still image blur. Rather, Misawa et al disclose a motion picture camera.

However, at the time of the invention, a person having ordinary skill in the art would have known to configure a motion picture camera to capture still images, as taught in Parulski et al (column 2, lines 3-4). It would have been obvious to combine Parulski et al with Misawa et al in order to provide greater variety in usage of the camera device.

Misawa et al in combination with Parulski et al do not disclose a restoration result saving unit that saves at least one of the parameters used in the image processing executed at the image restoration computing unit and the restored image in correspondence to the raw image.

Min discloses a restoration result saving unit that saves at least one of the parameters used in the image processing executed at the image restoration computing unit and the restored image in correspondence to the raw image (paragraph 35)

At the time of the invention, it would have been obvious to combine Min with Misawa et al and Parulski et al. The motivation for doing so would have been to have the ability to retain the restoration information for future use.

Therefore, it would have been obvious to combine Min with Misawa et al and Parulski et al to obtain the invention as disclosed in claim 70.

Regarding **claim 71**, Misawa et al in combination with Parulski et al and Min disclose all of the limitations as applied to claim 70 above.

Further, Misawa et al disclose a point spread function computing unit that computes a point spread function (column 6, lines 64-68; column 7, lines 1-8) wherein the image restoration computing unit executes the image restoration by processing the image using the point spread function (column 7, lines 9-55).

Misawa et al in combination with Parulski et al and Min do not disclose that the parameters include the point spread function.

At the time of the invention, the claim would have been obvious because a person of ordinary skill has good reason to pursue the known options within his or her technical grasp. If this leads to the anticipated success, it is likely the product is not of innovation but of ordinary skill and common sense. When using a restoration saving unit to save at least one of the parameters used in the image processing, there are a finite number of parameters that may be selected for saving. It is reasonable that a person having ordinary skill in the art would select the point spread function as one of those parameters, since it is of such importance in the restoration of the image.

Regarding **claim 72**, Misawa et al in combination with Parulski et al and Min disclose all of the limitations as applied to claim 70 above.

Misawa et al in combination with Parulski et al and Min do not disclose that the restoration result saving unit is capable of saving at least one of a plurality of sets of parameters each corresponding to one of a plurality of restored images and the plurality of restored images.

At the time of the invention, the claim would have been obvious because a

person of ordinary skill has good reason to pursue the known options within his or her technical grasp. If this leads to the anticipated success, it is likely the product not of innovation but of ordinary skill and common sense. When using a restoration saving unit to save at least one of the parameters used in the image processing, it is reasonable that a person having ordinary skill in the art would select to save a plurality of parameters corresponding to one of a plurality of restored images in order to retain the restoration information for future use.

Regarding **claim 73**, Misawa et al in combination with Parulski et al and Min disclose all of the limitations as applied to claim 71 above.

Further, Misawa et al disclose a blur correction camera system comprising a camera that comprises the vibration detection unit (column 3, lines 53-57), the blur correction optical system that is driven based upon the vibration detection signal and corrects an image blur (column 4, lines 1-5), the image-capturing unit (column 6, line 46), the point spread function computing unit (column 6, lines 64-68; column 7, lines 1-8), and a reference value computing unit that computes a reference value for the vibration detection signal and the raw image saving unit (column 5, lines 9-16).

Further, Min discloses an external device comprising the image restoration computing unit and the restoring result saving unit, that is a device independent of the camera and executes image restoration by using the raw image recorded at the raw image saving unit and the point spread function input thereto (paragraph 35).

Regarding **claim 75**, Misawa et al disclose a computer readable program product containing a blur correction control program (Figure 1, elements 35, 42, and 44)

comprising the instructions of receiving raw image data (column 6, lines 53-56) and a point spread function obtained when capturing the raw image data (column 6, lines 64-68; column 7, lines 1-8), creating a restored image by executing image restoration so as to correct an image blur through image processing executed on the raw image data using variable parameters related to the image processing that include the point spread function (column 6, lines 64-68; column 7, lines 1-55).

Misawa et al do not disclose wherein the image blur is a still image blur. Rather, Misawa et al disclose a motion picture camera.

However, at the time of the invention, a person having ordinary skill in the art would have known to configure a motion picture camera to capture still images, as taught in Parulski et al (column 2, lines 3-4). It would have been obvious to combine Parulski et al with Misawa et al in order to provide greater variety in usage of the camera device.

Misawa et al in combination with Parulski et al do not disclose the control program comprising the instruction of saving at least one of the parameters used in the image processing during the image restoration computation and the restored image in correspondence to the raw image data.

Min discloses a method whereby the device saves at least one of the parameters used in the image processing during the image restoration computation and the restored image in correspondence to the raw image data. The design of such a circuit as disclosed by Min inherently necessitates the use of a computer readable program product to supply the instruction thereto.

At the time of the invention, it would have been obvious to a person having ordinary skill in the art to combine Min with Misawa et al and Parulski et al. The motivation for doing so would have been to provide instructions such that the device could retain data for future use.

Therefore, it would have been obvious to combine Min with Misawa et al and Parulski et al to obtain the invention as disclosed in claim 75.

Regarding **claim 76**, Misawa et al in combination with Parulski et al and Min disclose all of the limitations as applied to claim 75 above.

A computer program product is inherently a recording medium in every normal use of the phrase. As such, claim 76 is rejected for the same reasons as those outlined for claim 75 above.

5. Claim 74 is rejected under 35 U.S.C. 103(a) as being unpatentable over Min in view of Misawa et al and in further view of Parulski et al

Regarding **claim 74**, Min discloses a data input unit that receives raw image data and a point spread function obtained when capturing the raw image data through at least one of communication with an external device and a medium (paragraph 35).

Min further discloses a restoration result saving unit that saves at least one of the parameters used in the image processing executed by the image restoration computing unit and the restored image in correspondence to the raw image (paragraph 35).

Min does not disclose an image restoration computing unit that allows a parameter related to image processing to be varied, executes image restoration through executing image processing on the raw image data using parameters that include the

point spread function and creates a restored image obtained by correcting an image blur.

Misawa et al disclose an image restoration computing unit that allows a parameter related to image processing to be varied, executes image restoration through executing image processing on the raw image data using parameters that include the point spread function and creates a restored image obtained by correcting an image blur (column 6, lines 64-68; column 7, lines 1-55).

At the time of the invention, it would have been obvious to combine Misawa et al with Min. The motivation for doing so would have been to allow for updated shake corrections due to continued shake, in order to present a finalized static image.

Min in combination with Misawa et al do not disclose wherein the image blur is a still image blur. Rather, Min in combination with Misawa et al disclose a motion picture camera.

However, at the time of the invention, a person having ordinary skill in the art would have known to configure a motion picture camera to capture still images, as taught in Parulski et al (column 2, lines 3-4). It would have been obvious to combine Parulski et al with Min and Misawa et al in order to provide greater variety in usage of the camera device.

Therefore, it would have been obvious to combine Misawa et al and Parulski et al with Min to obtain the invention as disclosed in claim 74.

Conclusion

6. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure:

Shiomi (5,619,030) "Control apparatus for image blur prevention employing an angular velocity and an image field sensor"

Zwirn et al (4,876,602) "Electronic focus correction by signal convolution"

Yamamoto et al (US 6,771,308 B1) "Digital camera having blur detection"

Kiriki et al (US 6,219,446 B1) "Image forming apparatus and manufacturing method of lens fitted film unit"

Usui (6,097,896) "Motion compensation system having motion detection signal correction"

Baba et al (5,878,108) "Method for generating X-ray image and apparatus therefor"

Yamasaki et al (5,365,303) "Shake-free image restoration system"

Nagasaki et al (5,155,520) "Camera apparatus having image correcting function against instability of shooting thereof"

7. Any response to this office action should be faxed to (571) 273-8300 or mailed to:

Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Hand - delivered responses should be brought to:

Customer Service Window
Randolph Building
401 Dulany Street

8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to MICHAEL A. STRIEB whose telephone number is (571)270-3528. The examiner can normally be reached on Monday-Friday 8am-5pm EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Patrick Assouad can be reached on (571) 272-2210. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/William B. Perkey/
for Patrick Assouad, SPE of Art Unit 2862

MAS